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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,884	11/12/2002	Paul K. Zoratti	10541-1323	2484

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EXAMINER

ENGLISH, PETER C

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,884

Applicant(s)

ZORATTI ET AL

Examiner

Peter C. English

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8,10 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8,10 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In the amendment filed on 02 July 2004, the amendments to the specification are not in compliance with 37 CFR 1.121 because they fail to accurately identify the location of the paragraphs to be replaced, i.e., the page and line numbers identified are not accurate. Further, the amendment to the abstract is not in compliance because the abstract is not submitted on a separate sheet. Correction of these errors is required.

Specification

2. The specification is objected to because:

At lines 9-10 of the paragraph beginning at page 5, line 10, "with a pedestrian airbag 30 mounted in proximity to the bumper 28" is inaccurate. As shown in Fig. 1, the pedestrian airbag 30 is near the middle of the vehicle.

At lines 9 and 10 of the paragraph beginning at page 13, line 31, "element" should be "elements".

Appropriate correction is required.

Claim Objections

3. Claim 10 is objected to because of the following informalities:

In claim 10, at line 3, "of" should be inserted after "indicative".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 8, 10, 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 8 has been amended to recite that the controller is capable of determining the location of an impact along a structural element. While the specification states that such a determination is possible, no description is given of the actual determination that

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is made by the controller (e.g., what evaluations/steps are performed by the controller in making this determination?). Vague assertions do not constitute an adequate description of the manner in which the invention is embodied.

5. Claims 10 and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, at line 3, "said deformation sensor element" is indefinite because more than one such element has been previously recited. The examiner suggests that this be changed to "each of said deformation sensor elements".

In claim 15, at lines 10-11, "said at least one deployable restraint" lacks proper antecedent basis. The examiner suggests: at line 11, change "deployable" to "passive".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 8, 10, 13, 15, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer et al. (US 5,419,407). Meyer et al. discloses a vehicle impact sensing system comprising: a deformation sensor 1 comprised of force sensing resistor (FSR) sensors 7.1, 7.2 (see column 3, lines 52-63) mounted on a reinforcement beam 2 of a side door (see column 3, lines 17-19); a side air bag 6; and a controller 5 for detecting changes in the resistance of the FSR sensor 7.1, 7.2 and for activating the air bag 6 which such changes indicate that a vehicle impact has occurred. Meyer et al. further discloses that a plurality of FSR sensors can be disposed along the length of the reinforcement beam 2 in order to more accurately evaluate vehicle impacts (see column 5, line 59 to column 6, line 8). The output signals of the plurality of FSR sensors are each independently evaluated in the manner shown in Fig. 4 to generate respective

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triggering signals 5.3, and the plural triggering signals are then used by the controller 5 (using an AND operation) to more accurately identify impacts (see column 6, lines 1-8). Still further, Meyer et al. discloses that a lateral acceleration sensor is used to more accurately evaluate vehicle impacts (see column 6, lines 8-15).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. (US 5,419,407) in view of Langford (US 5,583,476). Meyer et al. (discussed above) lacks a bend sensitive resistance sensor comprising a strip of conductive ink containing a plurality of cracks. Langford teaches a bend sensitive resistance sensor comprising a strip 14 of conductive ink containing a plurality of cracks (see column 2, lines 62-65; column 3, lines 23-32; column 4, lines 40-49). From this teaching of Langford, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meyer et al. by utilizing a bend sensitive resistance sensor comprising a strip of conductive ink containing a plurality of cracks because such

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a sensor provides a more consistent and predictable output (see Langford, column 3, line 60 to column 4, line 11).

11. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. in view of Langford as applied to claim 1 above, and further in view of Boran et al. (US 6,169,479). The Meyer et al. and Langford combination lacks a sensor disposed on the vehicle bumper for activation of a pedestrian air bag. Boran et al. teaches a sensor 42 disposed on a vehicle bumper 37 for activation of a pedestrian air bag 39. From this teaching of Boran et al., it would have been obvious to further modify Meyer et al. by providing a sensor disposed on the vehicle bumper for activation of a pedestrian air bag in order to protect a pedestrian who is struck by the vehicle.

12. Claims 14, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al. (US 5,419,407) in view of Boran et al. (US 6,169,479). Meyer et al. (discussed above) lacks a sensor disposed on the vehicle bumper for activation of a pedestrian air bag and a front air bag. Boran et al. teaches a sensor 42 disposed on a vehicle bumper 37 for activation of a pedestrian air bag 39 and a front air bag 32. From this teaching of Boran et al., it would have been obvious to modify Meyer et al. by providing a sensor disposed on the vehicle bumper for activation of a pedestrian air bag and a front air bag in order to protect a pedestrian who is struck by the vehicle and in order to protect a vehicle occupant during a front collision.

Meyer et al. also lacks a longitudinal acceleration sensor. Boran et al. teaches a longitudinal acceleration sensor 36. From this teaching, it would have been obvious to further modify Meyer et al. by providing a longitudinal acceleration sensor in order to more accurately evaluate longitudinal vehicle impacts. Meyer et al. additionally lacks sensors having piezoelectric cables. Boran et al. teaches sensors 42 having piezoelectric cables 44. From this teaching, it would have been obvious to further modify Meyer et al. by utilizing sensors having piezoelectric cables because such sensors enable improved discrimination between various types of vehicle impacts (see Boran et al., column 1, lines 23-30; column 2, lines 14-17).

With respect to claim 12, it would have been an obvious matter of design choice to replace the FSR sensors or the piezoelectric sensors with optical sensors since

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applicant has not established that optical sensors solve any particular problem. Further, the substitution of one known sensor for another is generally recognized as being within the level of ordinary skill in the art.

Response to Arguments

13. Applicant's arguments filed on 02 July 2004 have been fully considered but they are not persuasive. Applicant argues that Meyer et al. lacks sensor elements spaced along the door beam 2. The examiner disagrees. Meyer et al. discloses that a plurality of FSR sensors can be disposed along the length of the reinforcement beam 2 in order to more accurately evaluate vehicle impacts (see column 5, line 59 to column 6, line 8). Arranging a plurality of FSR sensors along the elongated beam 2 would necessarily result in sensor elements spaced along the door beam 2 (even if the spacing is very small).

Applicant argues that Meyer et al. fails to teach sensor elements useful for determining the location of an impact. The examiner disagrees. Claim 8 only requires that the controller is "capable" of determining the location of impact. Since the controller of Meyer et al. receives triggering signals from each of the FSR sensors disposed along the length of the elongated beam 2, the controller has the ability to (i.e., is "capable") determine the impact location.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

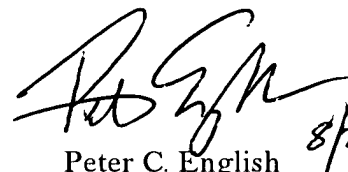
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter C. English whose telephone number is 703-308-1377. The examiner can normally be reached on Monday through Thursday (7:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 703-308-2089. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



8/24/04

Peter C. English
Primary Examiner
Art Unit 3616

pe
24 August 2004